Feb. 6, 1949.

Dear Jacques,

I have your letter of the 31st.

You can be sure that the findings I wrote you of are as puzzling to me as to you. We tested for galactosidase with K-12 grown on galactose. Such cells do ferment lactose with acid production; I have not measured oxygen consmption. It is. of course, possible that our galactose is contaminated with a small amount of lactose, and we will have to repeat the experiments with highly purified material. Even so this would not account for the response of Lac_1-, especially to butyl galactoside.

Pardon me for my ambiguity in referring to "utilization". I have not yet tested for combination of galactose or lactobionate with the enzyme, and I was referring to the utilization by the cell. It is, of course, quite possible that lactobionate unites with the galactosidase, but that it is not split from it rapidly enough to allow utilization as a C source,

We have repeated many times, the substrate experiment (a la Spiegelma that you referred to. The reults are even more striking in the case of the Mal_1 segregation, because the linkage situation results in only about 1% Mal+ prototrophs, a value which is not influenced by the medium on which the cells have been grown. The same thing is clearly seen in our "heterozygote" segregations, where the segregation is followed directly on the EMB agar carrying the substrate.

Sincerely,
Joshua Lederberg
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